# PLANT IMMIGRANTS.

No. 135. JULY, 1917.

GENERA REPRESENTED IN THIS NUMBER.



## Plates:



Foreign Seed and Plant Introduction.

## EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

June 22, 1918.

*Andropogon erianthoides* F. Mueller. (Poaceae.) 45037. **Satin-top** grass from Burringbar, New South Wales, Australia. Presented by Mr. B. Harrison. An erect, glaucous grass, 2 or 3 feet high, with rather narrow leaves and usually 3 to 4 sessile, erect spikes about 3 inches in length. It is a native of New South Wales and Queensland, where it is considered a very superior grass for forage purposes. It produces a heavy crop of rich, succulent foliage, spreads from the roots, and also seeds freely. (Adapted from Bentham & Mueller, Flora Australiensis, vol. 7, p. 529, and from J. H. Maiden, Useful Native Plants of Australia, p. 73.)

*Andropogon intermedius* R. Brown. (Poaceae.) 45038. **Rare bluegrass** from Burringbar, New South Wales, Australia. Presented by Mr. B. Harrison. An erect grass, with rather narrow leaves and slender spikes, growing in large clumps 2 feet or more in height. It is a native of Australia, where it is used as a forage grass. It is readily propagated from the roots. (Adapted from Bentham & Mueller, Flora Australiensis, pp. 531, 532, and from Agricultural Gazette, New South Wales, May 2, 1914.)

*Annona cherimola* Miller. (Annonaceae.) 45020. **Cherimoya** cuttings from Guatemala. Collected by Mr. Wilson Popenoe, of this Bureau. "(No. 164. From the sitio of Julio Guerra Antigua. July 16, 1917.) An unusually productive and otherwise desirable cherimoya from the garden of Julio Guerra, who keeps a small tienda across the street from the rear of the Hotel Rojas. This is the most productive tree I have seen in this entire region, though I have examined a large number, not only in Antigua but in many of the surrounding villages. There is one peculiarity worthy of mention: Both this tree and the one from which I obtained budwood (No. 49) in Duenas, have been topped within the last few years and the present crown is all new wood. These two trees were the only ones I have seen bearing good crops of fruit, and this naturally brings up the question: Is the productiveness of these trees due to the fact that they have been topped? It rather looks as though it may be; and it would be well worth while experimenting with some of the old seedling trees in southern California to see if topping would render them more productive. Topping is not done here with the intention of making the trees produce more fruit; it has been purely accidental

in these two cases. The large limbs have been cut back within a foot or two of their union with the trunk. From the stubs numerous sprouts have made their appearance, and on these much more fruit is produced than upon the fruiting branches of the ordinary crown. The tree from which this budwood was taken has a trunk about 10 inches in diameter, and the crown is now about 10 feet broad. I counted over 50 fruits on the tree, which is a large crop for a cherimoya. The fruits are heart-shaped or bluntly conical; much freer from irregularities than many varieties; and of large size, averaging about a pound in weight. The surface is clean and almost smooth, the carpellary areas being indicated by raised lines. This is a variety of pleasing form and appearance, of good size for handling and marketing, and the quality seems to be good. It ripens earlier here than most of the other seedlings, the first fruits having already dropped, while the fruits on most of the other trees I have seen are still immature. It should be tried in California." (Popenoe.)

*Annona cherimola* Miller. (Annonaceae.) 45021. **Cherimoya** cuttings from Guatemala. Collected by Mr. Wilson Popenoe, of this Bureau. "(No. 165. From the sitio of Julio Guerra, Antigua. July 16, 1917.) A prolific variety of the *cherimoya,* or *anona,* as it is called in the Guatemalan highlands. The tree is small, though not young. Apparently it has been cut back heavily, leaving only one limb of the several which formerly composed the crown. The height of the tree at present is about 15 feet, while the trunk is about 8 inches thick at the base. The crown is slender and unsymmetrical. At this date (July 16) the tree is carrying 102 young fruits, and is still flowering. The season of ripening is from November to January. In form the fruits are cordate to conical. When ripe the larger ones will weigh more than one pound. The surface is rough, the carpellary areas on some specimens giving rise to short protuberances, while on other specimens the protuberances are almost wanting. Julio Guerra says 'the ripe fruit has very white flesh and is of good quality.' The unusual productiveness of the parent tree commends the variety for trial in California and Florida." (Popenoe.)

*Asimina triloba* (L.) Dunal. (Annonaceae.) 45019. **Papaw** cuttings from De Kalb, Missouri. Presented by Mr.

J. C. Roach. "(July 23, 1917.) **Long John papaw.** Grown on the John Cole farm, 3 miles south of De Kalb." (Roach.) The fruit of this variety is of unusual shape, being very long in proportion to its breadth (sometimes almost like a banana in form), and weighs 7 or 8 ounces. The quality is good but not equal to that of several others, and the fruit is a good shipper, perhaps the best of all, the skin being notably tough and thick. (Adapted from Journal of Heredity, January, 1917, in which is published the offer of the American Genetic Association which brought this and many other varieties of papaw together for comparative study.)

*Canavali ensiforme* (L.) DeCandolle. (Fabaceae.) 44938. **Sword bean** seeds from Mombasa, British East Africa. Presented by Kerslake Thomas & Company. Gotian Estate, Changamwe, at the request of Mr. Henry P. Starrett, American Consul, Mombasa. "**Go-ta-ni bean.** It is an exceedingly heavy cropper, yielding about 2200 pounds per acre under ordinary conditions. It is very hardy and a great drought-resister. In this country it is a perennial, 2½ feet in height, and grows well on a clay loam and also on a light sandy soil. It would probably do well in southern United States and California. Upon analysis it is found that the bean contains an exceptionally high percentage of albuminoids and oil, while the moisture is low. The high percentage of fiber is accounted for by the tough consistency of the outer covering of the bean. There is nothing to indicate that it would not be fit for food, although the tough outer covering would better be removed. No prussic acid has been detected in the macerated product." (Kerslake Thomas & Co.)

*Chamaedorea sp.* (Phoenicaceae.) 44994. **Palm** plants from Guatemala. Collected by Mr. Wilson Popenoe, of this Bureau. "(No. 150. July 9, 1917.) A dwarf palm collected in dense forests near Purulá, Department of Baja Verapaz, at an elevation of approximately 5500 feet. This species is usually called by Spanish-speaking Guatemalans **pacayito,** which means "small pacaya." By the Indians of the Alta Verapaz, who speak the Quekchi language, it is called **ko-küp** which also means "small pacaya," and in Purulá I heard it called **pamak.** This name is doubtless given because of the resemblance to the common **pacaya,** a palm which is extensively cultivated in Guatemala for its edible flower buds. Probably

the name **pacayito** may be chosen as best suited to use in the United States. Judging from accounts given me by various residents of the Verapaz, this palm commonly occurs in the mountains of that region at elevations of about 4000 to 6000 feet. It always grows in dense forests, and must be considered a shade and moisture-loving species. The soil in which it grows is nothing but decayed leaves for the first several inches, which is kept continually moist by the abundant rains of this region. In Coban the **pacayito** is a favorite house plant, being grown in pots and tubs and used to decorate living rooms and patios. In the city of Guatemala it is occasionally used for the same purpose, the plants being brought down from Coban. In the forests, the **pacayito** seems never to reach a greater height than 3 feet. It is a true dwarf (one might almost call it a miniature palm), for it reaches maturity and comes into flower when not over a foot high. This dwarf habit makes it of unusual interest as a pot plant for the north, as it can be fruited in an ordinary living room when growing in an eight-inch pot. It makes its character leaves almost as soon as the young plant is out of the seed. I have seen many plants in the forest, not over 4 inches tall, which already had 2 to 4 fully characterized leaves. When quite small it strongly resembles *Cocos weddelliana,* but the pinnae are somewhat broader and not so numerous. For fern dishes in the northern states it should have great value. When mature, the plant has a slender trunk, perhaps half an inch thick and two feet high. The leaves are a foot to eighteen inches in length, rather finely pinnate, deep green, and graceful, with the rachis stiff but arching slightly. In the Verapaz the flowers are produced in June and July and the small, round seeds, about as large as small peas, ripen in December. Since it is found at considerable elevation in the Verapaz, it seems likely that this palm will be sufficiently hardy for cultivation in the open in California and Florida. It should be provided with ample shade, however, and planted in a very moist situation in soil containing a large proportion of leaf mold. As a house plant for the northern states, and for use in fern dishes, it seems to me that this plant possesses unusual possibilities, and I strongly recommend it for trial." (Popenoe.)

*Chamaedorea sp.* (Phoenicaceae.) 45022. **Pacaya palm** seeds from Guatemala. Collected by Mr. Wilson Popenoe,

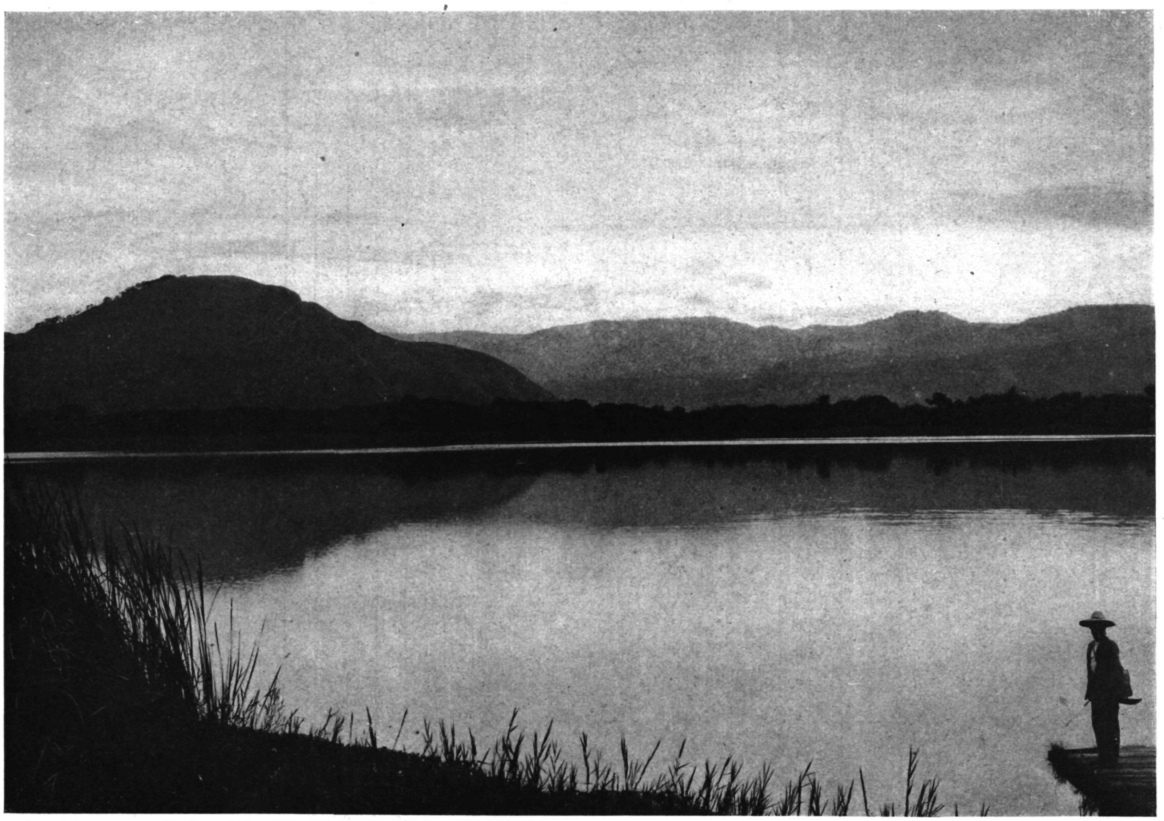
of this Bureau. "(No. 167a. From San Cristobal, Department of Alta Verapaz, July 16, 1917.) Nearly every garden in Coban, San Cristobal, and other towns of the Alta Verapaz, contain a number of these attractive palms, grown not so much for ornament as for the edible inflorescences which they produce. In some parts of central Guatemala, such as San Antonio Aguas Calientes, the pacaya is occasionally seen, but it appears to be much more abundant in the Verapaz than in any other section of the republic. It is cultivated at varying elevations, the lowest observed being about 3000 feet and the highest 5200. From the fact that it succeeds at such high elevations as 5000 feet it must be considered slightly hardy, and may be found sufficiently so to be grown outdoors in southern California and Florida. The palm grows to a height of 15 to 25 feet, more commonly the former than the latter. The trunk is slender, erect, and about 2 inches thick. The leaves are 3 to 6 feet long, with 18 to 24 pairs of pinnae, subopposite toward the base of the rachis. The lowermost pinnae are narrow and are not over 8 to 10 inches long; farther up they become 18 or 20 inches long and nearly 2 inches wide. In general, the foliage of this palm suggests that of the well known *Areca lutescens* (properly *Chrysalidocarpus lutescens*) of northern conservatories. It is graceful, of rich green color, and in every way pleasing. The inflorescences appear from October to May, a few coming at other seasons of the year. They appear along the trunk, a short distance beneath the lowermost leaves. Before the spathes burst and the flowers appear, these buds, which are 8 to 12 inches in length, are cut for use. The part which is eaten is the tender, white, much-branched inflorescence within the spathe. Its preparation for the table consists in dipping it in a batter made of eggs and then frying it; in enveloping it in an omelet; in boiling it and serving it as a vegetable; or in mixing it with other vegetables to form a salad. When very young and tender its flavor is most agreeable. When the buds are nearly ready to burst, the infloresence frequently has a bitter taste which is objectionable to some people, though much liked by others. This palm grows on a variety of soils, seeming to do well on clay and also on black sandy loam. It is frequently planted in gardens among coffee bushes, and in some sections it is planted beneath the shade of large trees. It may be necessary to supply shade for the plant in regions such as southern California. If

so, this could be easily done by means of a lath or slat house. As an article of food the pacaya is much used in Guatemala, and at local stands it commands a good price, single inflorescences selling commonly at 5 or 6 for a peso (2½ cents) in the regions where they are grown. The leaves are widely used for decorative purposes, being cut to adorn houses during the many fiestas which take place in this country." (Popenoe.)

*Cocos datil* Drude & Griseb. (Phoenicaceae.) 45009. **Palm** fruits from Gotha, Florida. Presented by Mr. H. Nehrling. "This is the most massive hardy Cocos species which I have. The bunches of fruits usually weigh about 50 pounds each. I raised the plant from seeds received from the late Dr. Hermann Burmeister of Buenos Aires, who informed me that the seeds had been collected by Dr. Niederlein at Entre Rios, Argentina about 22 years ago. These Cocos species are the most beautiful and hardy on the high pinelands, and most of them have edible fruits which are very aromatic." (Nehrling.)

*Cocos yatay* Martius. (Phoenicaceae.) 45073. **Palm** seeds from Gotha, Florida. Presented by Mr. H. Nehrling. "The partially bright red fruit, larger than that of *Cocos australis,* comes from a taller, open tree, --*Cocos yatay.* There are not many fruits in a bunch, and I have not tasted them but they appear to be good. This tree was also grown from seed received from Blumenau, Brazil, in 1890, which was collected by Gaertner from wild trees growing in stony or rather dry soil. These cocoid palms (*Cocos australis, C. gaertneri, C. datil, C. campestris, C. eriospatha* and several others) have rather hard, bluish green leaves, and thrive to perfection on our high dry Florida pineland. I think they will grow all along the south Atlantic and Gulf Coast. All are fine ornamentals in any garden." (Nehrling.)

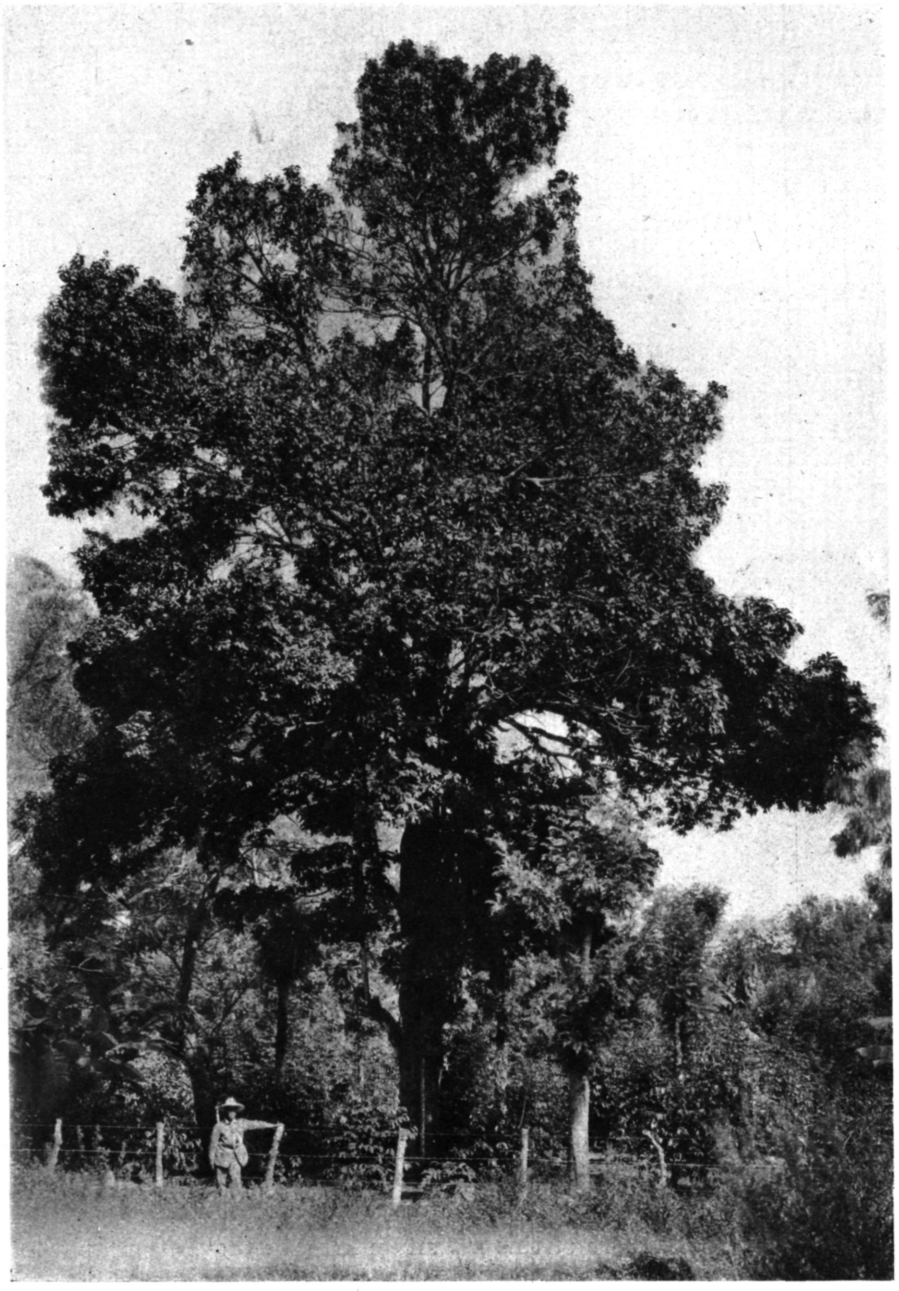
*Diphysa sp.* (Fabaceae.) 44997. Seeds from Guatemala. Collected by Mr. Wilson Popenoe, of this Bureau, "(No. 153a. July 9, 1917.) A leguminous shrub common in the mountains of the northern part of the Department of Baja Verapaz, between Salamá and Santo Tomas. It grows in dry, rocky places and also along the banks of streams, reaching a height of about 3 feet under the former conditions and 6 feet under the latter. The foliage is coarsely pinnate, with oval, glaucous



**LAKE AMATITLAN, THE HOME OF THE GUATEMALAN AVOCADO.**

The first two sets of cuttings of Guatemalan avocado varieties to be sent in by Mr. Wilson Popenoe, Agricultural Explorer of the United States Department of Agriculture, were collected on the opposite shore of this mountain lake, in the section known as Rellew, where numerous coffee fincas or plantations occur. (Photographed by Wilson Popenoe, Laguna, Guatemala, October 9, 1916; P16846FS.)

Pl. 222.



**THE INJERTO TREE OF GUATEMALA.**

(*ACHRADELPHA VIRIDIS* (*PITTIER*) O. F. COOK, *S. P. I. No. 43788.*)

The sapote (*Achradelpha mammosa*) has not been a success in Florida or California, but this near relative, which grows at an altitude of 6,000 feet, may stand a better chance of succeeding. It does not come into bearing until it is 8 years old, but it then often produces enormous crops of round to oval fruits, of a dull yellow-green color, a sweet pleasant flavor, and a soft melting texture, which resembles but is better than that of the sapote itself. (Photographed by Wilson Popenoe on the road to San Juan del Obispo, Guatemala, October 26, 1916; P16910FS.)

leaflets. The flowers, which are produced in clusters of considerable size, are of a deep lilac color and quite attractive. In form they resemble the flowers of the common pea, but are smaller, being about half an inch broad. The shrub seems well worthy of trial in California and Florida." (Popenoe.)

*Ixerba brexioides* Cunningham. (Escalloniaceae.) 44955. **Tawari** seeds from Auckland, New Zealand. Presented by Mr. H. R. Wright, Avondale Nursery. A beautiful evergreen tree, sometimes 70 feet tall, with thick, leathery, coarsely serrate leaves 3 to 7 inches long, and very handsome waxy, white flowers 1½ inches wide, borne in flat panicles. It is a native of New Zealand, where it is not common; and is considered by some to be the most beautiful tree indigenous to that country. (Adapted from Laing and Blackwell, Plants of New Zealand, pp. 186, 188.)

*Musa paradisiaca seminifera* (Lour.) Baker. (Musaceae.) 45007. **Plantain** seeds from Nice, France. Presented by Dr. A. Robertson Proschowsky. A wild, seed-bearing plantain having small, oblong, greenish fruits full of seed. These fruits are about a third of the size of the common banana; and have a pleasant taste, although encumbered by numerous seeds. The plant is quite ornamental; and as it is hardier than the common banana it might be possible, by selection or hybridization, to extend the range of banana culture. (Adapted from Bailey, Standard Cyclopedia of Horticulture, vol. 4, p. 2079, and from letter of Dr. A. Robertson Proschowsky, June 30, 1917.)

*Panicum decompositum* R. Brown. (Poaceae.) 45040. Seeds from Burringbar, New South Wales, Australia. Presented by Mr. B. Harrison. A tall, coarse, succulent, semi-aquatic grass, cultivated in many parts of Australia as a forage crop. It produces an abundance of forage, and is greatly relished by stock. It has yielded, under cultivation, as much as 3 tons of hay per acre. The seeds are produced in December and January. (Adapted from J. H. Maiden, Useful Native Plants of Australia, pp. 97, 98.)

*Persea sp.* (Lauraceae.) 44996. Seeds from Guatemala. Collected by Mr. Wilson Popenoe, of this Bureau. "(No. 152a. From the Chuacús mountains, near Rincon Grande, about 5 miles from Salamá, at an approximate

elevation of 3000 feet. July 9, 1917.) I do not know what this species may be; possibly it is as yet undescribed. Only one tree has been seen up to the present, and this was erect, rather slender in habit, 30 feet in height. The foliage strongly resembles that of *P. americana,* but is more heavily pubescent beneath than is common in that species. In form and size the leaves could not be distinguished from some of the cultivated avocados. The young leaves and branchlets are covered with a velvety tomentum. The fruits, which ripen in June, are oval or oblong-oval in outline, about an inch and a half in length, shining black in color, with a membranous skin and a very small amount of greenish pulp having a strongly resinous taste. The seed is quite large in comparison with the size of the fruit, elliptical in outline, with the seed coats thin, brownish and brittle, and adhering closely. The cotyledons are whitish, with the embryo at the base of the seed. The fruit is distinct from that of the avocado in having a large, fleshy, bluntly-toothed calyx, pinkish or whitish in color, which remains on the tree when the fruit falls. This species is introduced in connection with the experiments now being carried on with a view to determining the best stock on which to bud the avocado." (Popenoe.)

*Persea sp.* (Lauraceae.) 44999. **Coyo** budsticks from Guatemala. Collected by Mr. Wilson Popenoe, of this Bureau. "(No. 161. From the sitio of Don David Pierri, San Cristobal, Verapaz. July 3, 1917.) The **coyo, chucte, shucte,** or, as it is sometimes called, **chaucte,** is a species of Persea which is undoubtedly indigenous in this region. It is reported also from Zacapa and Chiquimula, but I have only seen it here up to the present. The tree grows on the banks of streams, where the soil is moist and rich. The hills in this region are dry, rocky, and covered with a scanty vegetation of cacti, Pereskia, thorny leguminous shrubs and small trees, and a few other plants. As well as being indigenous to this region, the **coyo** must be classed as a cultivated fruit tree, since it is occasionally, but not often, planted in gardens. At the present time the **coyo** is neither in flower nor in fruit. It is said to bloom in February and to ripen its fruit in May and June, continuing until August. One of the two trees which I have seen, (this one standing on the north bank of the Rio Motagua a short distance above El

Rancho) was about 60 feet in height. The other one was not more than 45 feet high. The general appearance of the tree, its habit of growth, size, character of bark and foliage, are remarkablly suggestive of an avocado of the West Indian type; but on closer examination it is seen that the leaves are larger than is common with the avocado, the venation is impressed on the upper surface of the leaf, and, most conspicuous of all, the ends of the young branchlets and the petioles are covered with a ferrugineous tomentum. The foliage is said to fall just before the tree comes into bloom: the flowers making their appearance with the new leaves. The leaves are clustered at the ends of the branchlets, though not crowded. The leaf-blades are oblong-elliptic, truncate at the base, sharply acute to shortly acuminate at the apex, 8 to 12 inches long, 4 to 7 inches broad, bright green and glabrous above, glaucous and rather heavily pubescent below; the pubescence ferrugineous on the midrib and to a less degree on some of the larger transverse veins. The venation is slightly impressed on the upper surface, very prominent below. The petioles are 1 to 1¾ inches long, narrowly canaliculate toward the articulation with the leaf-blade, and ferrugineous-pubescent like the branchlets from which they arise. The fruit is described as long and slender, almost black, with a large and long seed and thin flesh. The flavor is described as rich and bland, similar, but superior, to that of the avocado. It is highly esteemed by the inhabitants, and it is stated that it has even been shipped to the city of Guatemala and sold in the market there." (Quoted from description furnished with Popenoe's No. 72.)

*Rymandra excelsa* Salisbury. (Proteaceae.) 44956. Seeds from Auckland, New Zealand. Presented by Mr. H. R. Wright, Avondale Nursery. A New Zealand tree, sometimes 100 feet in height, with stiff, linear-oblong, roughly-toothed leaves 4 to 8 inches long, and racemes of red, velvety flowers, 2 to 3 inches long and 2 inches in diameter. The tree bears a considerable resemblance to the Lombardy poplar when seen from a distance. The wood is much used for cabinet work. (Adapted from Laing and Blackwell, Plants of New Zealand, pp. 146-148, under *Knightia excelsa.*)

*Solanum tuberosum* L. (Solanaceae.) 45023. **Potato** tubers from Honolulu, Hawaii. Presented by Mr. J. M.

Westgate, Agronomist in Charge, Hawaii Agricultural Experiment Station. **"Portuguese Red.** These were submitted by Mr. J. B. Thompson, Superintendent of the Glenwood Experiment Station, Hawaii. They are important because they are remarkably immune to the diseases (late blight wilt, etc.) which affect the ordinary potato." (Westgate.)

*Tabebuia pentaphylla* L. Hemsley. (Bignoniaceae.) 44998. Seeds from Guatemala. Collected by Mr. Wilson Popenoe, of this Bureau. "(No. 154a. July 9, 1917.) **Matiliscuate.** A handsome flowering tree, found in north central Guatemala, especially in the valley of Salamá, commonly growing near small streams. I have seen it at elevations of 2000 to 3500 feet. The tree is about 35 feet high at maturity, with a spreading crown, deciduous during the latter part of the dry season (January to March), and producing large clusters of pink flowers which make it a mass of color visible for some distance. Its flowering season is from January to March, and the seeds, which are produced in long, slender pods, ripen in May and June. As an ornamental tree for cultivation in south Florida, and possibly also in California, the **matiliscuate** seems well worthy of trial. Its only defect is its habit of dropping its leaves during the dry months of the year. However, if it flowers in the same months in Florida as it does in Guatemala it should be a valuable addition to the flowering trees of that region. It thrives on heavy but rocky land, and does not seem to require a large amount of water." (Popenoe.)

*Zea mays* L. (Poaceae.) 45036. **Corn** seeds from Port-au-Prince, Haiti. Presented by Captain John Marston, Civil Administrator. "Selected maize. A prolific bearer throughout Haiti; in the mountains, along the beach, and in the valleys and lowlands." (Marston.)

*Ziziphus mauritiana* Lamarck. (Rhamnaceae.) 44940. **Indian jujube** seeds from Saharanpur, India. Presented Mr. A. C. Hartless, Superintendent, Botanic Garden. "The tree is mainly cultivated for its fruit, which on the wild or commoner kinds is more or less globose, and on the cultivated and improved kinds, ovoid or oblong. The pulp is mealy and sweetish, with a pleasant taste, and some of the cultivated kinds are very good indeed. The dried fruits are sold in the bazaars of

the Panjab under the name of **unab;** the best kind is imported from Kandahar." (D. Brandis, Forest Flora of India, p. 88, under *Z. jujuba* Lan.)

**Notes on Behavior of Previous Introductions.**

Mr. Joseph L. Delafield, 35 Nassau St., New York, in a letter dated November 19, 1917, states regarding the Tashkand watermelon (S. P. I. No. 29243), of which he has a number of seeds, that in his opinion it is valuable to market gardeners, as it will keep well in shipment and bear considerable rough handling without injury. In a letter, dated Oct. 29, Mr. Delafield states that he found the Tashkand watermelon of superior quality, the vine being strong and bearing fair-sized fruits filled solid.

A letter from the Tribble Nursery Co., Elk Grove, Cal., dated December 10, 1917, concerning various introductions which they have tested, reports on several as follows:

"21989. **Fei tao seedling peach,** four trees. Each tree bore identically the same fruit. Fruit averaged 1 pound each. Tree good grower and shows that it will bear heavily. This is the finest white peach we have ever seen. It is far superior to the White Heath Cling and much larger. We use this nearly exclusively for home canning. Ripens early August; blooms full March 1st. 31652. **Methly plum.** One of the most valuable introductions we have tried. Ripens very early, blooms with Japanese types of plums and needs to be thinned 10 and 15 to 1 when it is as large as an average Wickson. **Quetta Nectarine.** One of the finest nectarines we have seen, and the most fragrant. Very large. Red over greenish white ground, sweet and delicious. Cling stone. Ripens in August, shy in bearing so far, and very susceptible to curl leaf. **Early Chinese cherry.** Small fruit very good; light pink. Blooms in early February, often ripens last of March and never later than middle of April. Bears very good crop and tree seems perfectly free from any gum disease. **Chinese pears.** A number of these bore fruit of no particular value. No blight in trees, while other varieties blighted badly, as well as did many varieties of apples."

United States Department of Agriculture.
Bureau of Plant Industry.
Office of Foreign Seed and Plant Introduction.
Washington, D. C.

## Washington Scientific Staff.

David Fairchild, Agricultural Explorer in Charge,
P. H. Dorsett, Plant Introducer, in Charge of Plant Introduction Field Stations.
B. T. Galloway, Plant Pathologist.
Peter Bisset, Plant Introducer, in Charge of Foreign Plant Distribution.
Wilson Popenoe, Agricultural Explorer.
H. C. Skeels and R. A. Young, Botanical Assistants.
H. E. Allanson, D. A. Bisset, R. N. Jones, P. G. Russell, and G. P. Van Eseltine, Assistants.
Edward Goucher, Plant Propagator.

## Field Stations Scientific Staff.

R. L. Beagles, Superintendent in Charge, Plant Introduction Field Station, Chico, Cal.
E. O. Orpet, Assistant in Plant Introduction.
J. M. Rankin, Superintendent in Charge, (Yarrow) Plant Introduction Field Station, Rockville, Md.
Edward Simmonds, Superintendent in Charge, Plant Introduction Field Station, Miami, Fla.
J. E. Morrow, Superintendent in Charge, Plant Introduction Field Station, Brooksville, Fla.
Henry E. Juenemann, Superintendent in Charge, Plant Introduction Field Station, Bellingham, Wash.

## Collaborators.

Mr. Aaron Aaronsohn, Haifa, Palestine.
Mr. Thomas W. Brown, Cairo, Egypt.
Mr. H. M. Curran, Laurel, Md.
Mr. M. J. Dorsey, University Farm, St. Paul, Minn.
Mr. Robt. H. Forbes, Tucson, Ariz.
Mr. Gustav Eisen, New York City.
Mr. A. C. Hartless, Saharanpur, India.
Mr. Barbour Lathrop, Chicago, Ill.
Mr. C. C. Logan, Luray, Va.
Mr. H. Nehrling, Gotha, Fla.
Miss Eliza R. Scidmore, Washington, D. C.
Mr. Charles Simpson, Littleriver, Fla.
Mr. H. P. Stuckey, Experiment, Ga.
Dr. L. Trabut, Director, Service Botanique, Algiers, Algeria.
Mr. H. N. Whitford, School of Forestry, New Haven, Conn.
Mr. E. H. Wilson, Arnold Arboretum, Jamaica Plain, Mass.